

## **ABSTRACT**

Polyvalent, primary isolate nucleic acid compositions for inducing an immune response against HIV is disclosed. The compositions and methods described herein are for the use of a DNA composition that encodes one or more different HIV envelope glycoproteins. The DNA composition can encode an HIV Gag protein. The DNAs encoding one or more HIV proteins are a combination of different nucleic acids, such as DNA plasmids, generated from primary isolate DNA of different HIV major group genetic clades and/or different proteins. HIV protein compositions for inducing an immune response against HIV are disclosed. Methods for using the protein compositions as boosts following administration of the DNA compositions are provided.